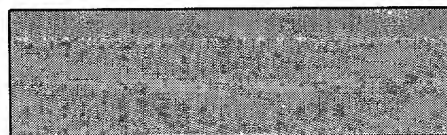


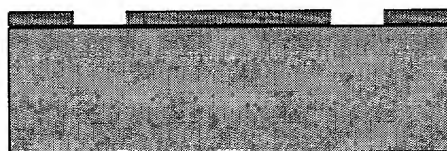
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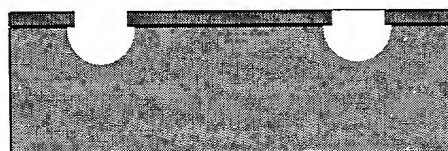
1. Start Substrate Wafer



2. Deposit Masking Material



3. Pattern Masking Material



4. Etch Substrate Wafer

FIG. 1
MICROFABRICATION PROCESS



1 Start Substrate Wafer



2. Deposit Masking Material



3. Pattern Masking Material



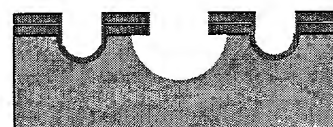
4. Etch Substrate Wafer



5. Deposit 2nd Masking Layer



6. Pattern 2nd Masking Layer

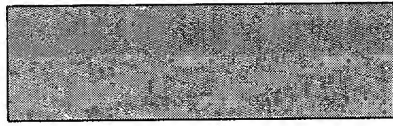


7. 2nd Etch Substrate Wafer

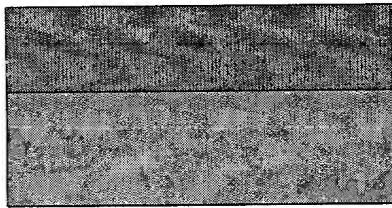


8. Remove Masking Layer

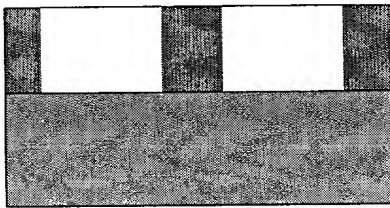
FIG. 2.
MULTI-DEPTH MICROFABRICATION PROCESS.



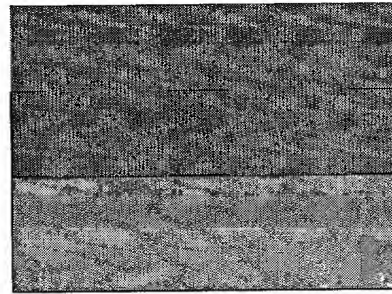
Starting Wafer



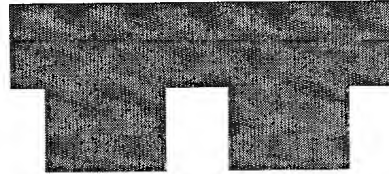
Apply Thick Resist



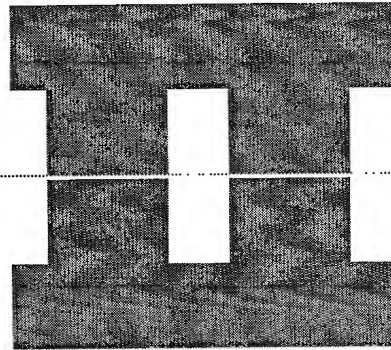
Pattern Thick Resist



Pour Biodegradable Polymer Material into Mold



Remove Scaffold from Mold



Bond Scaffolds

FIG.3.
SCAFFOLD FABRICATION PROCESS FROM MOLDS

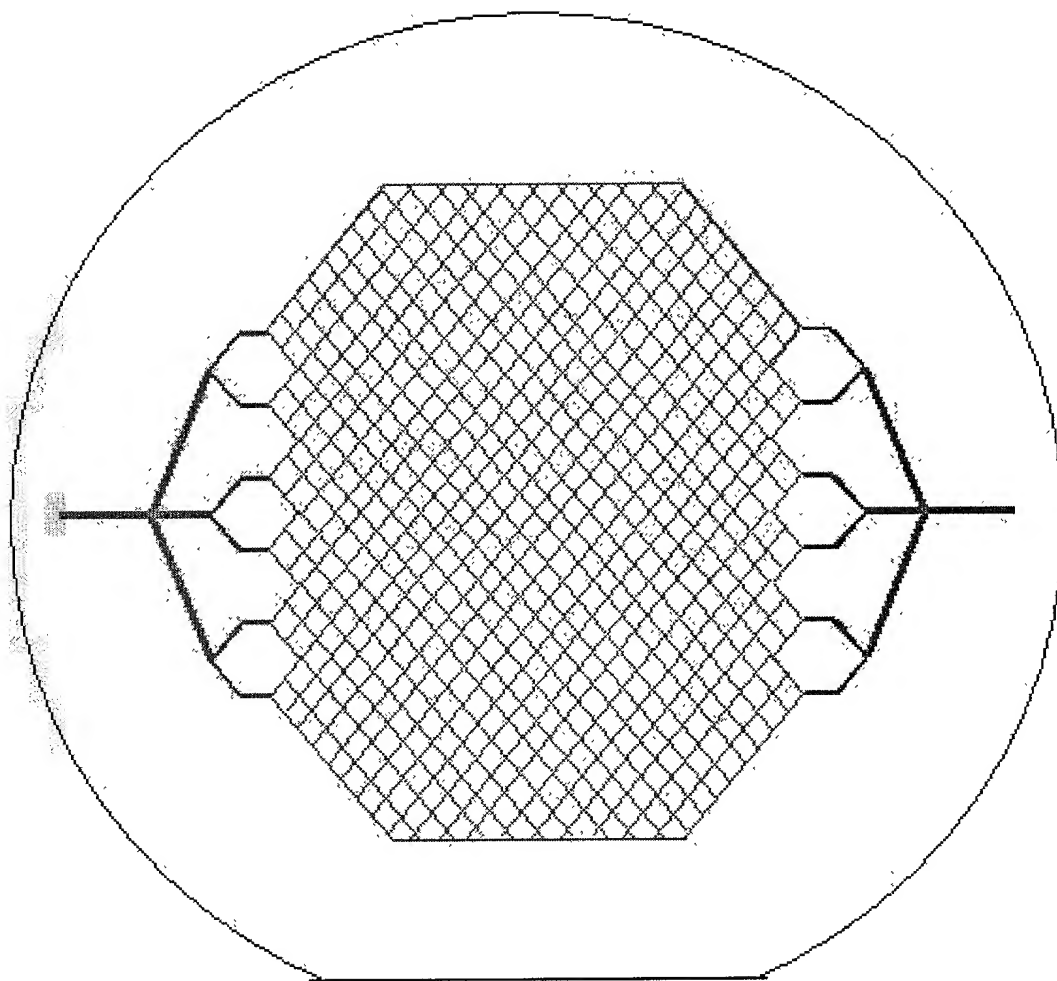


FIG. 4
VASCULAR PATTERN OF TEP-0

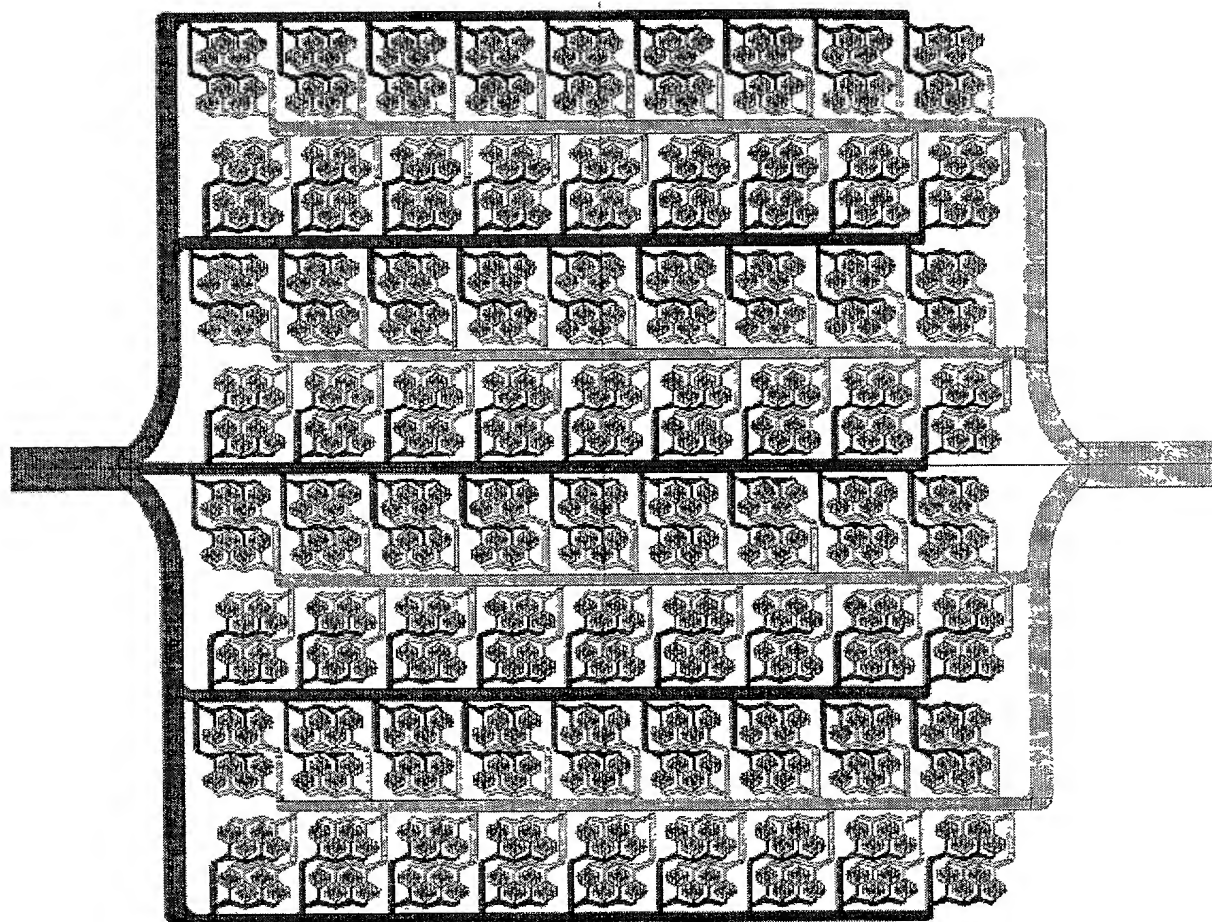


FIG. 5
VASCULAR PATTERN OF TEP-1

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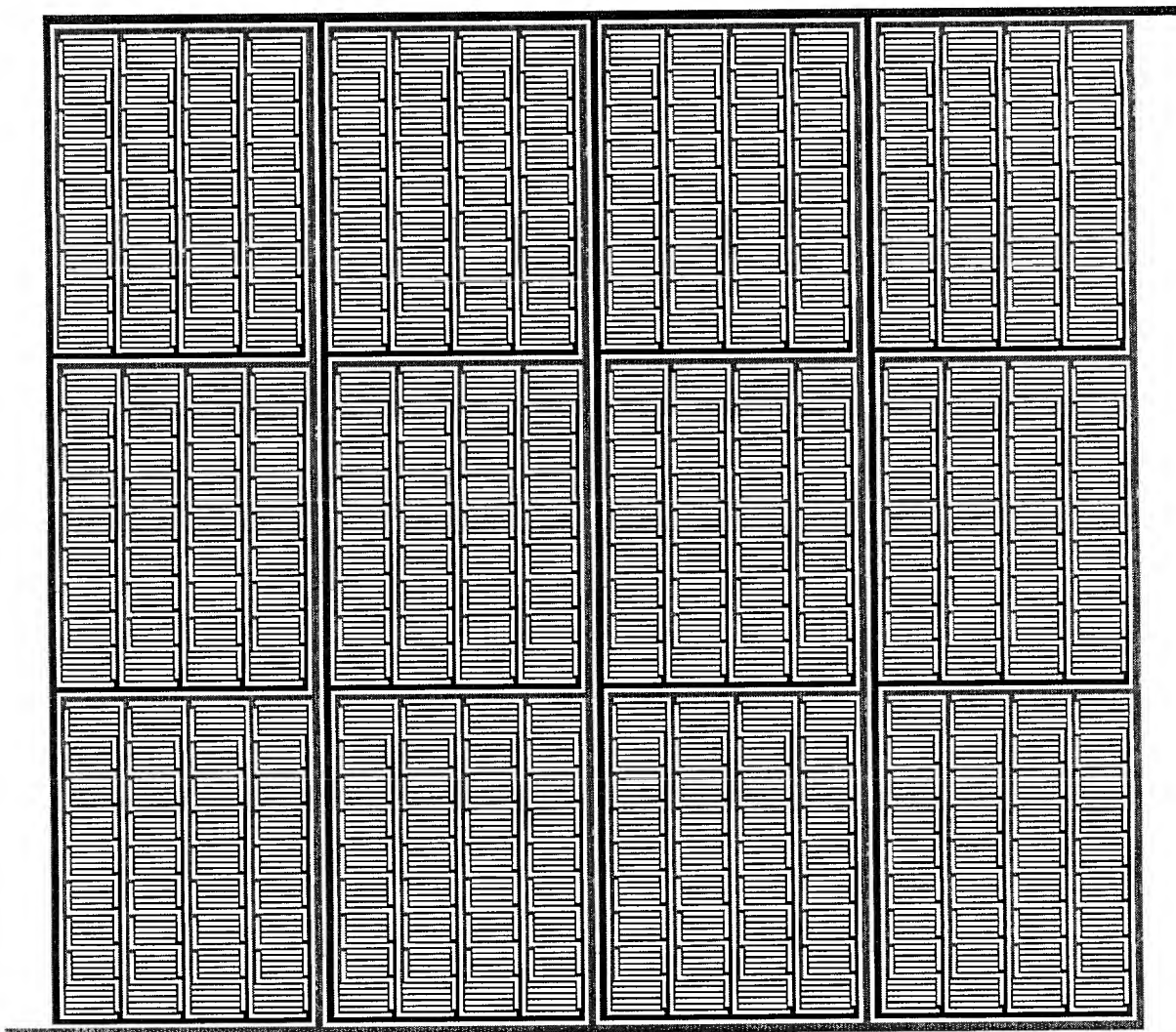


FIG. 6
VASCULAR PATTERN OF TEP-2a

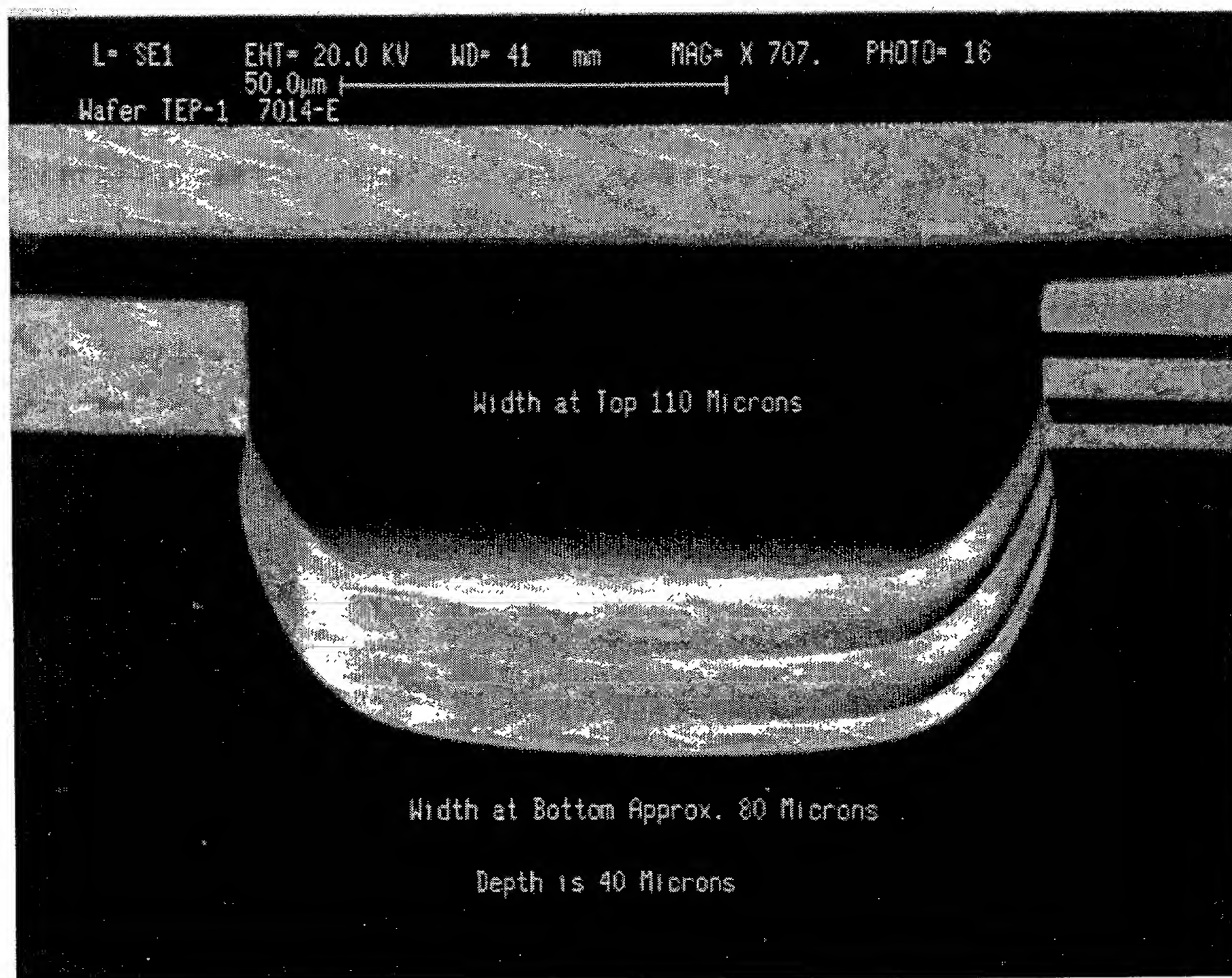


FIG. 7
CHANNEL FORMED BY OPTIMIZED PLASMA ETCHING

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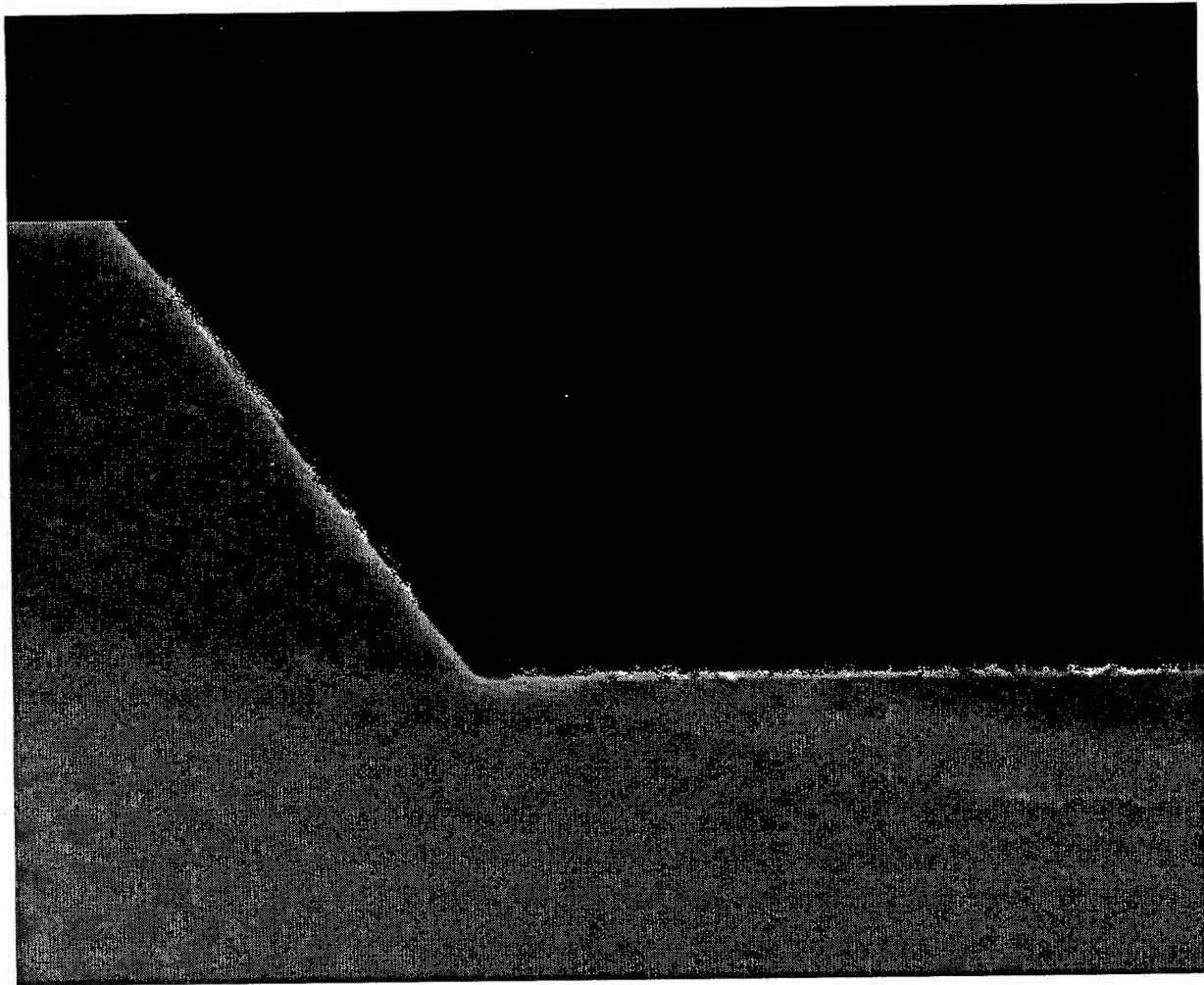


FIG. 8
ANGLED SIDEWALL PRODUCED BY KOH ETCHING

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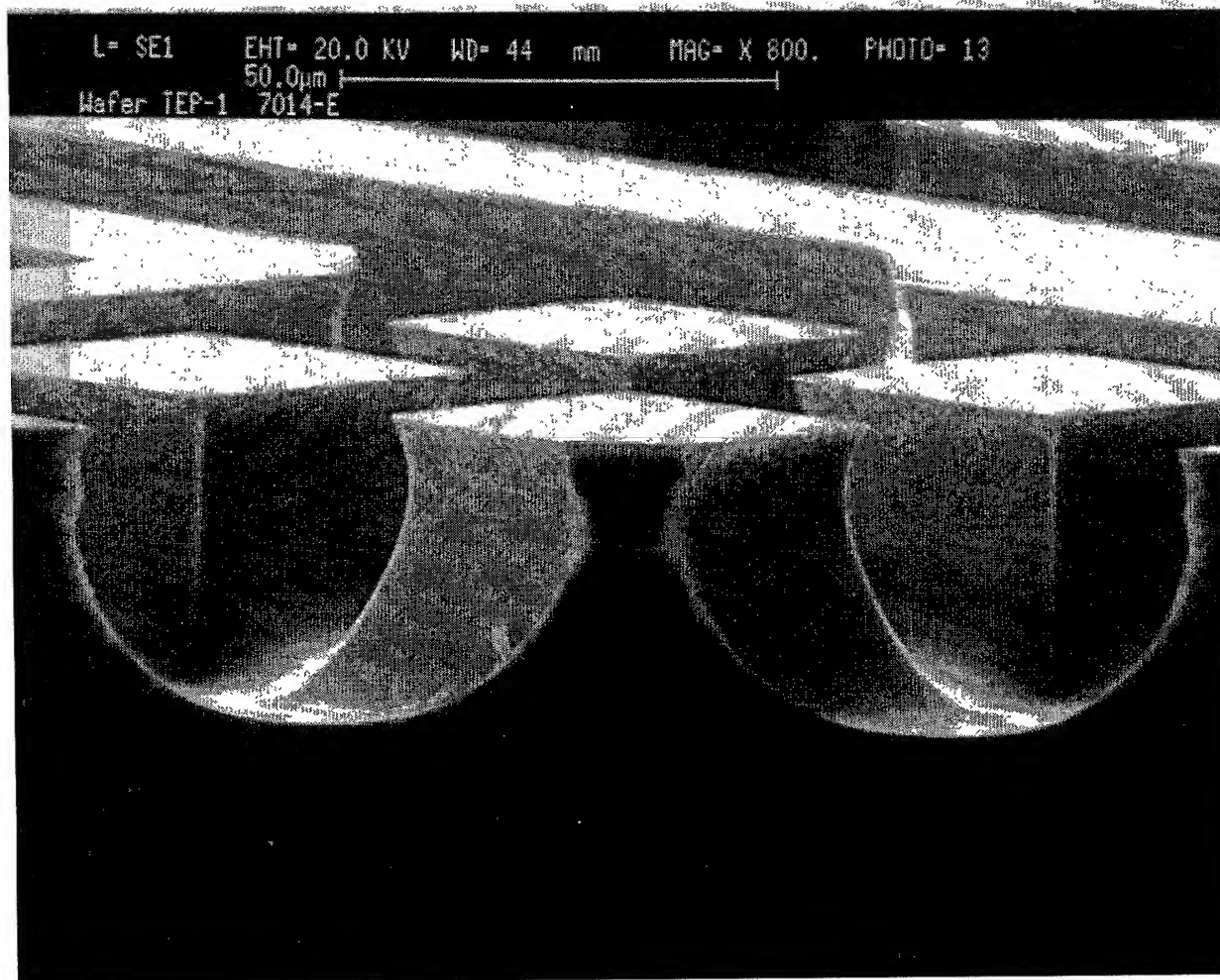


FIG. 9
SHARP CURVES AND CORNERS DUE TO ETCH BEHAVIOR
AT INTERSECTIONS BETWEEN CHANNELS

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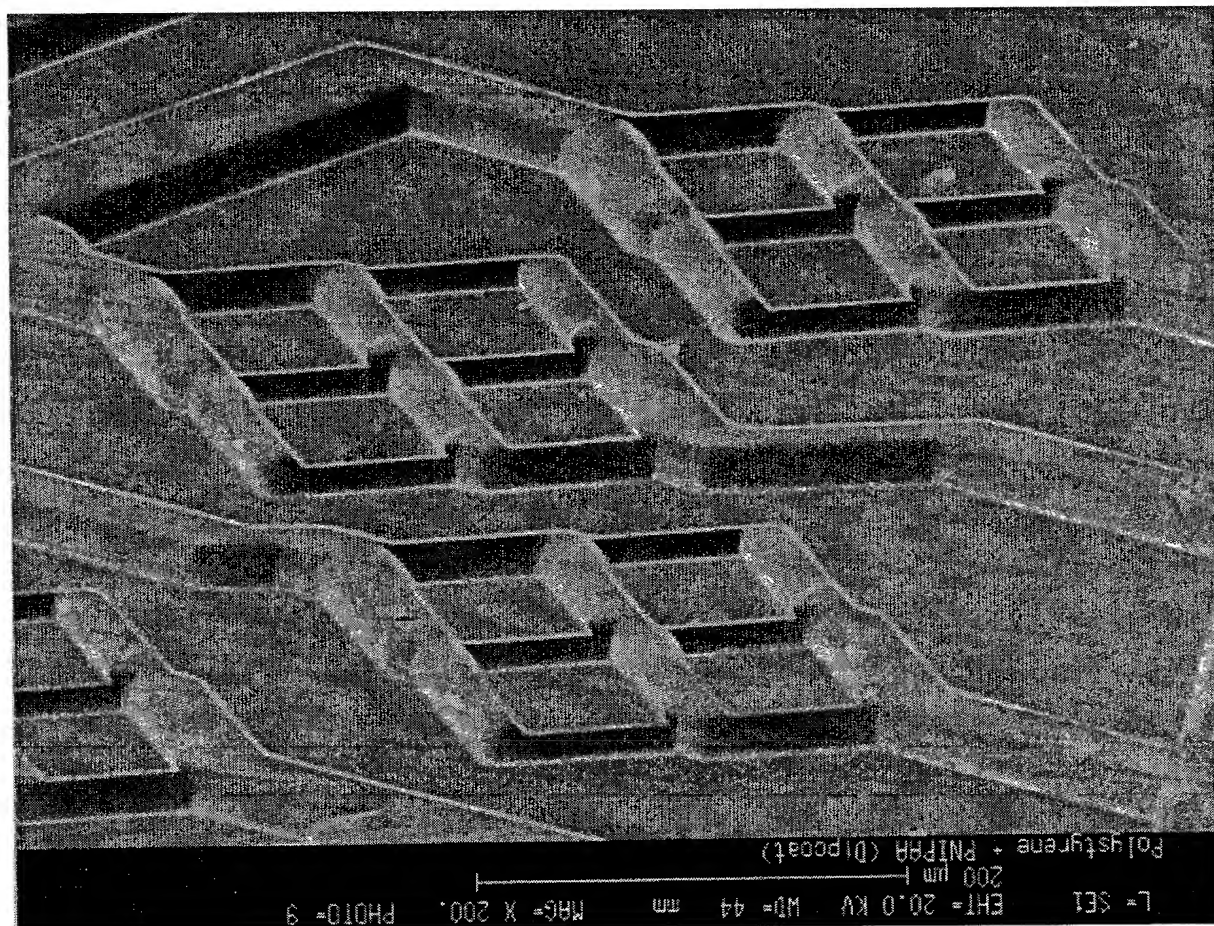


FIG. 10
NEGATIVE MOLD WITH CHANNELS RAISED

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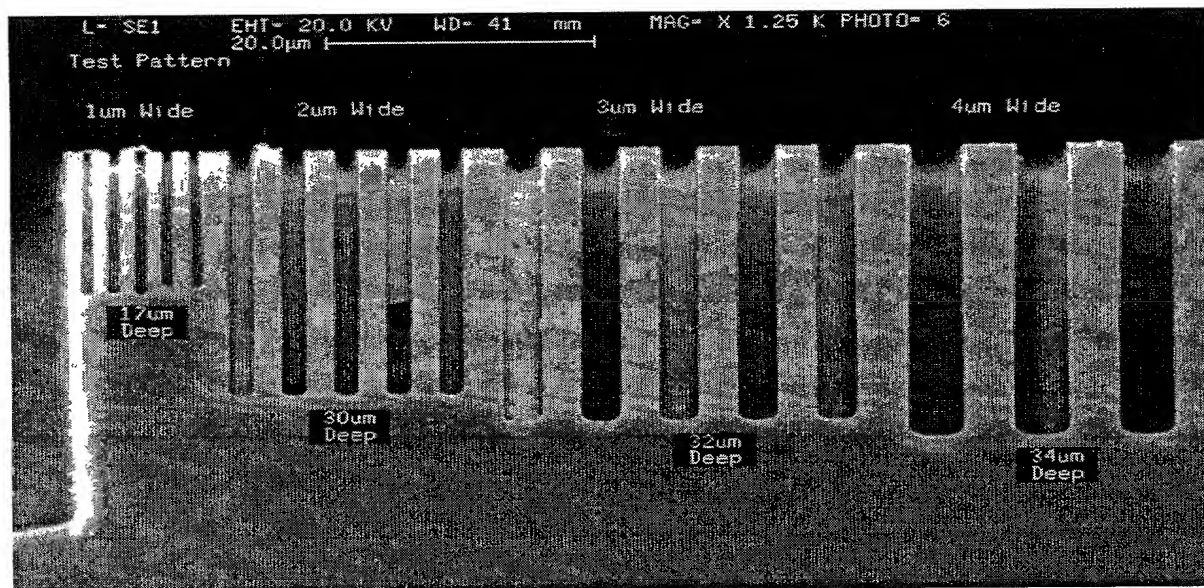


FIG. 11
 SCANNING ELECTRON MICROGRAPH OF
 VARIED-WIDTH AND VARIED-HEIGHT CHANNELS

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202010168801

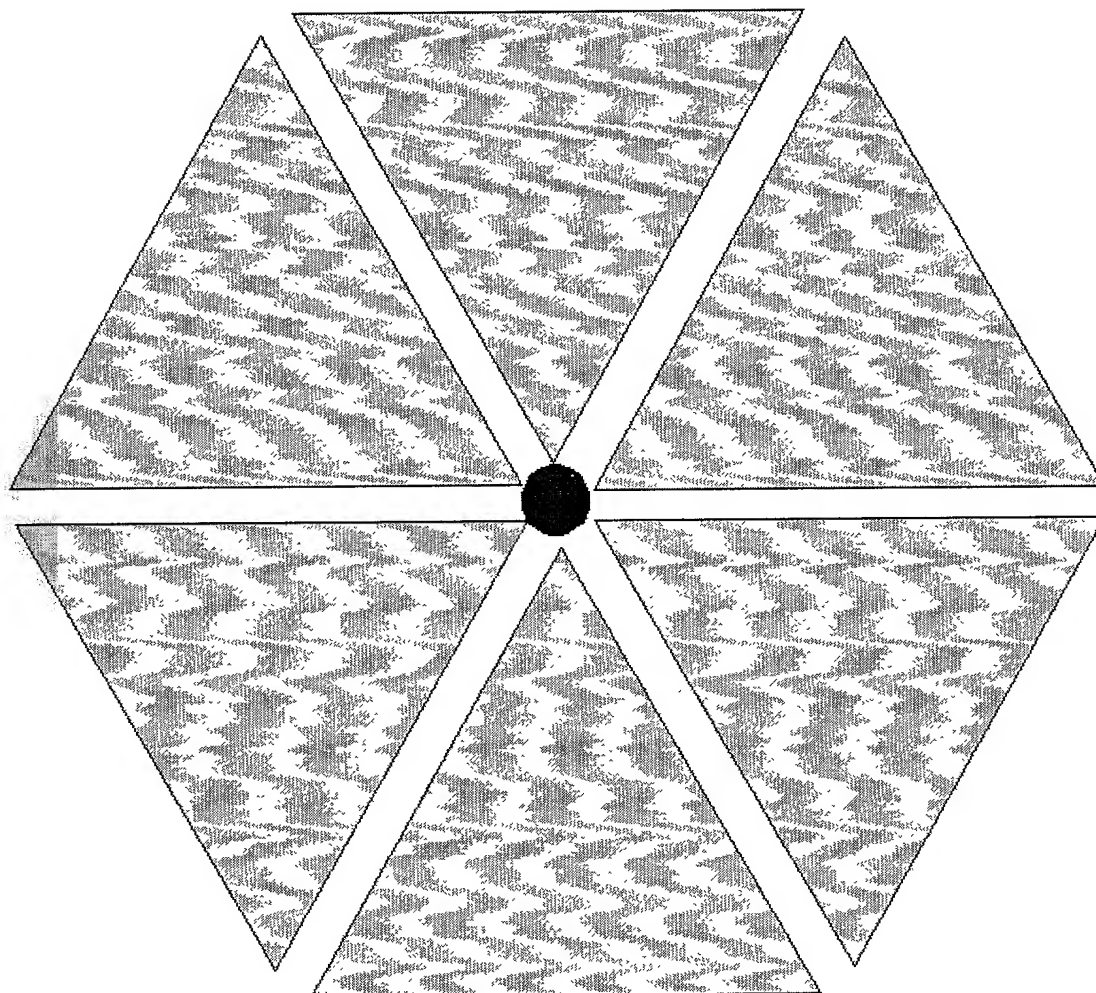


FIG. 12
MICROMACHINED UNIT WITH THROUGH-HOLE

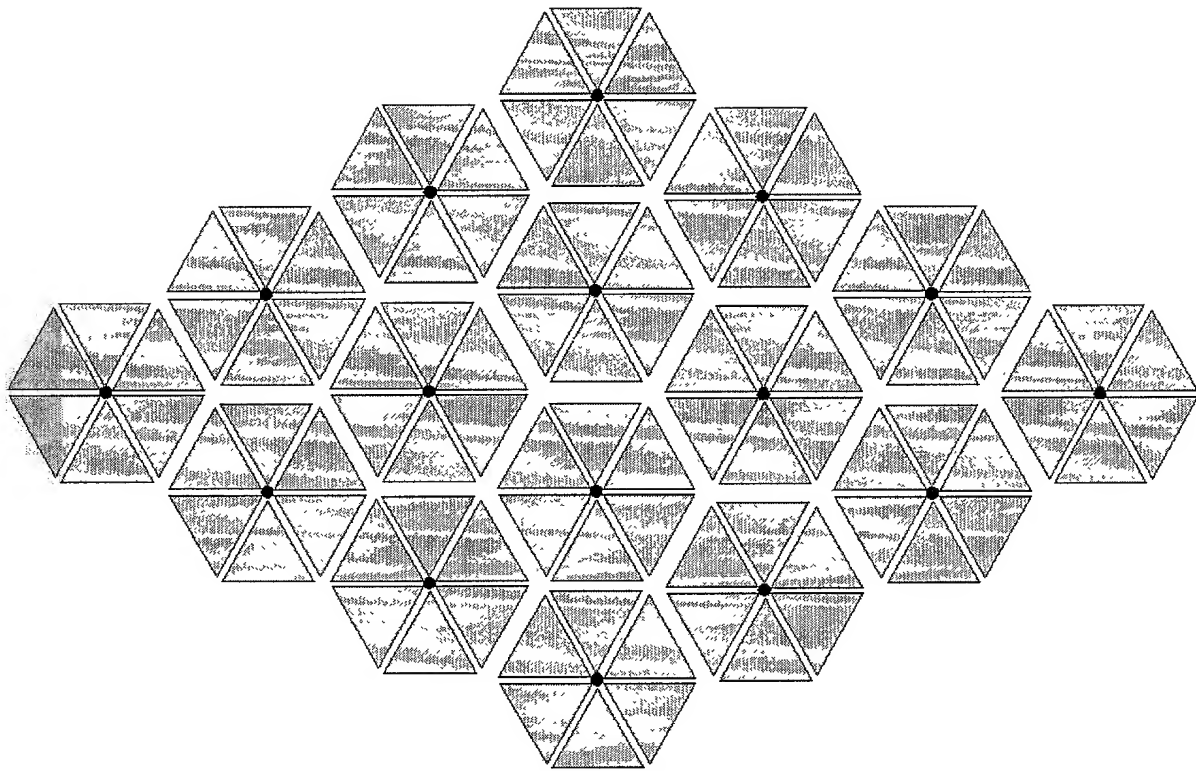


FIG. 13
SET MICROMACHINED UNITS WITH THROUGH-HOLES

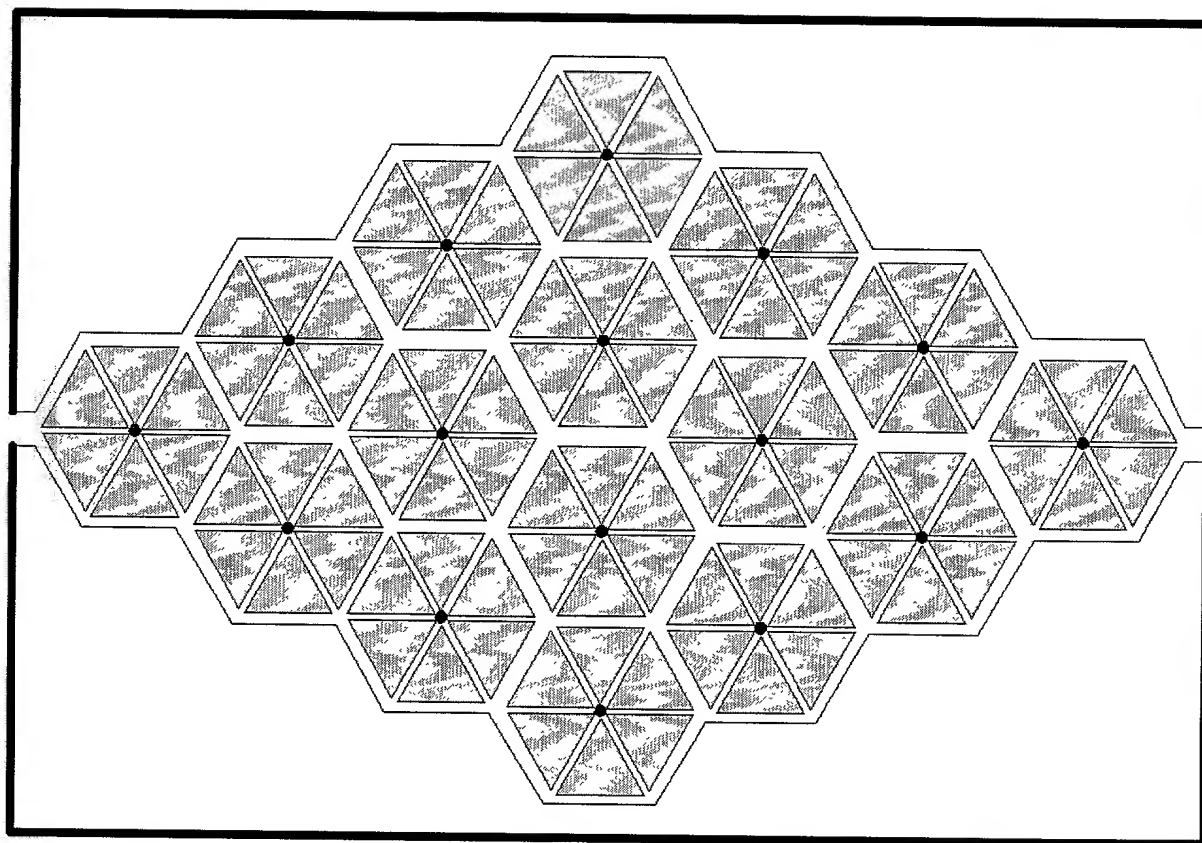


FIG. 14
SCAFFOLD WITH SET OF MICROMACHINED UNITS, THROUGH-HOLES AND
CHANNELS

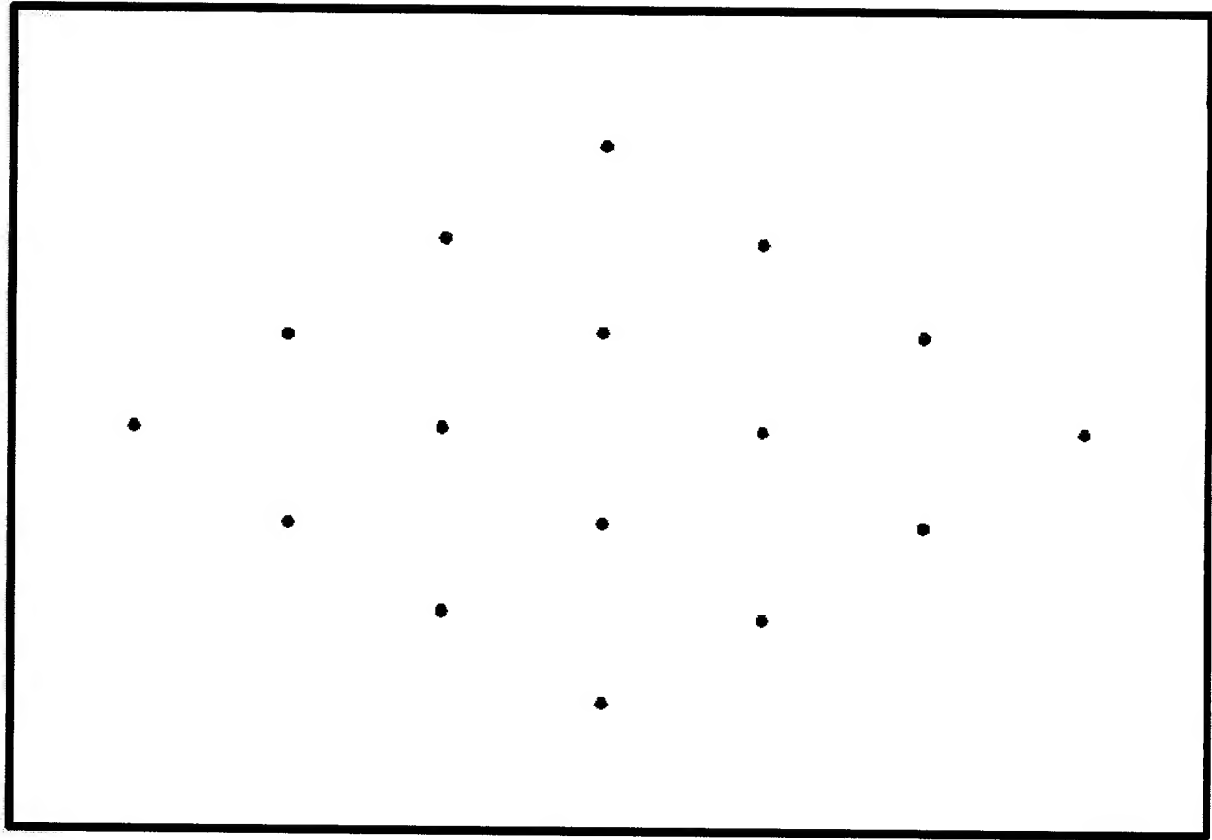


FIG. 15
SCAFFOLD WITH THROUGH-HOLES

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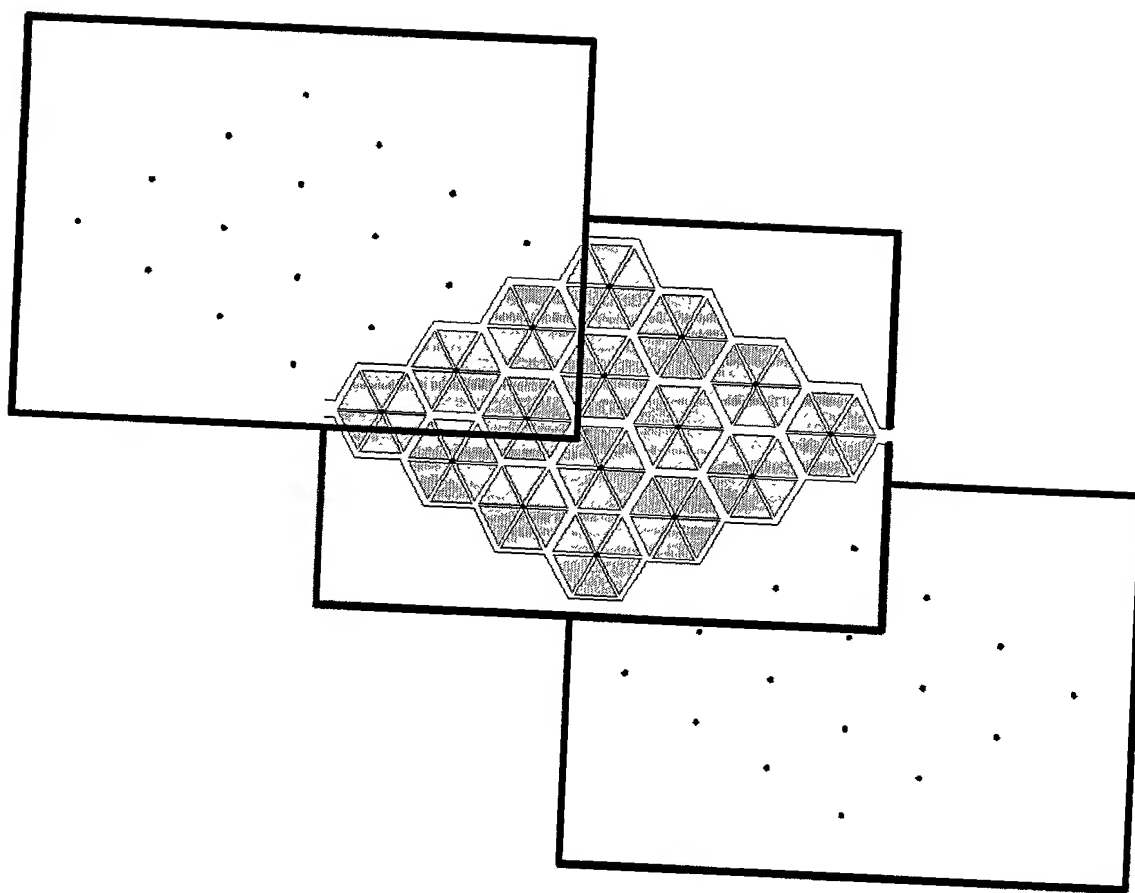


FIG. 16
STACKING OF SCAFFOLD WITH THROUGH-HOLES AND SCAFFOLD WITH SET OF
MICROMACHINED UNITS, THROUGH-HOLES AND CHANNELS

Albumin Production for 24 hrs

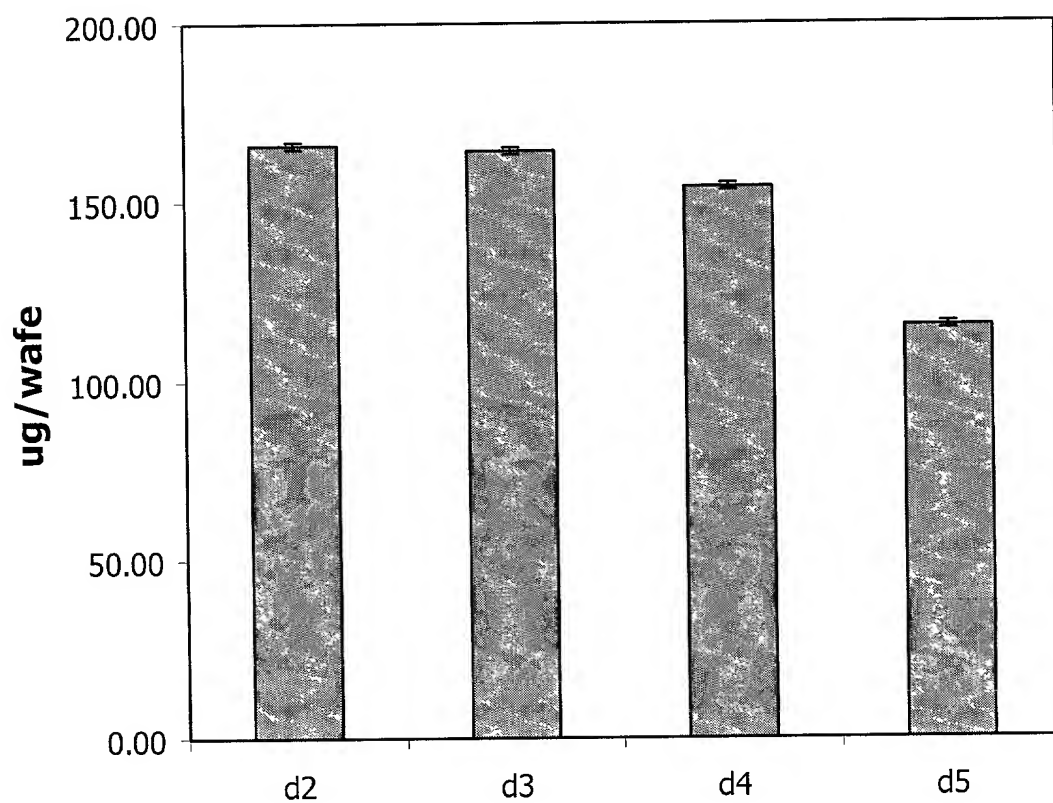


FIG. 18
ALBUMIN PRODUCTION

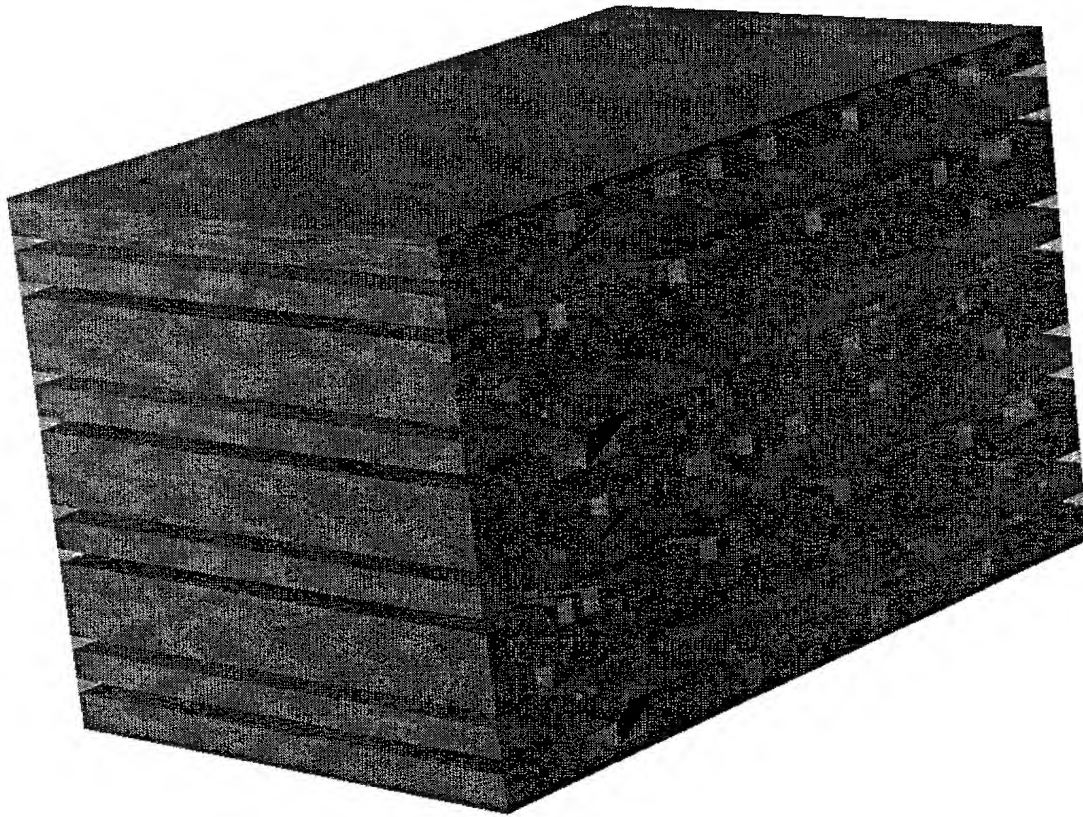


FIG. 19
STRIATED STACKED SCAFFOLD SYSTEM

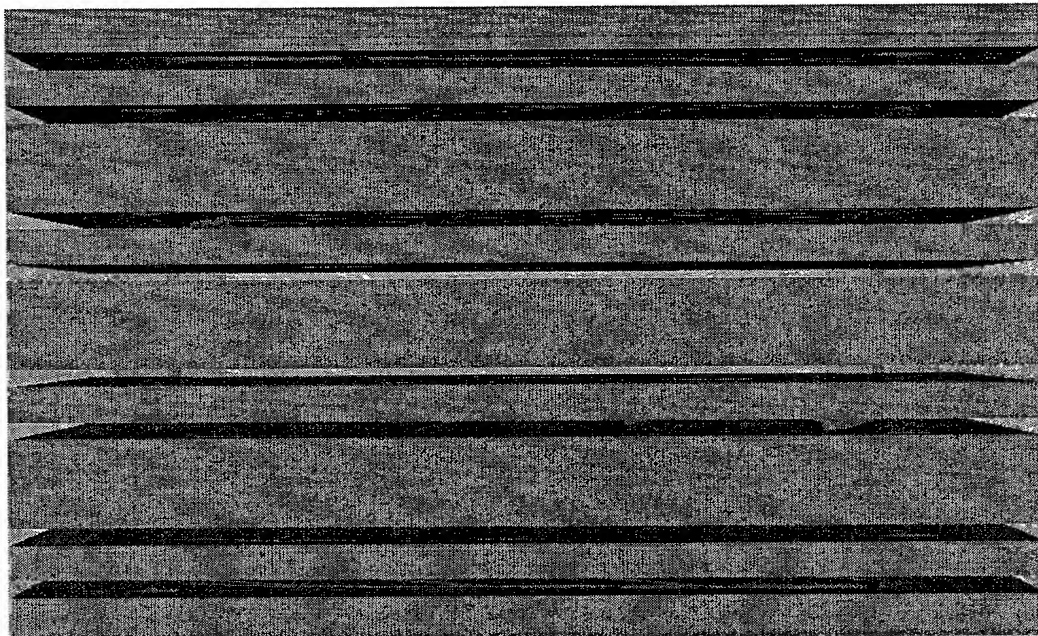


FIG. 20
STRIATED STACKED SCAFFOLD SYSTEM

2020-06-20 16:30:00

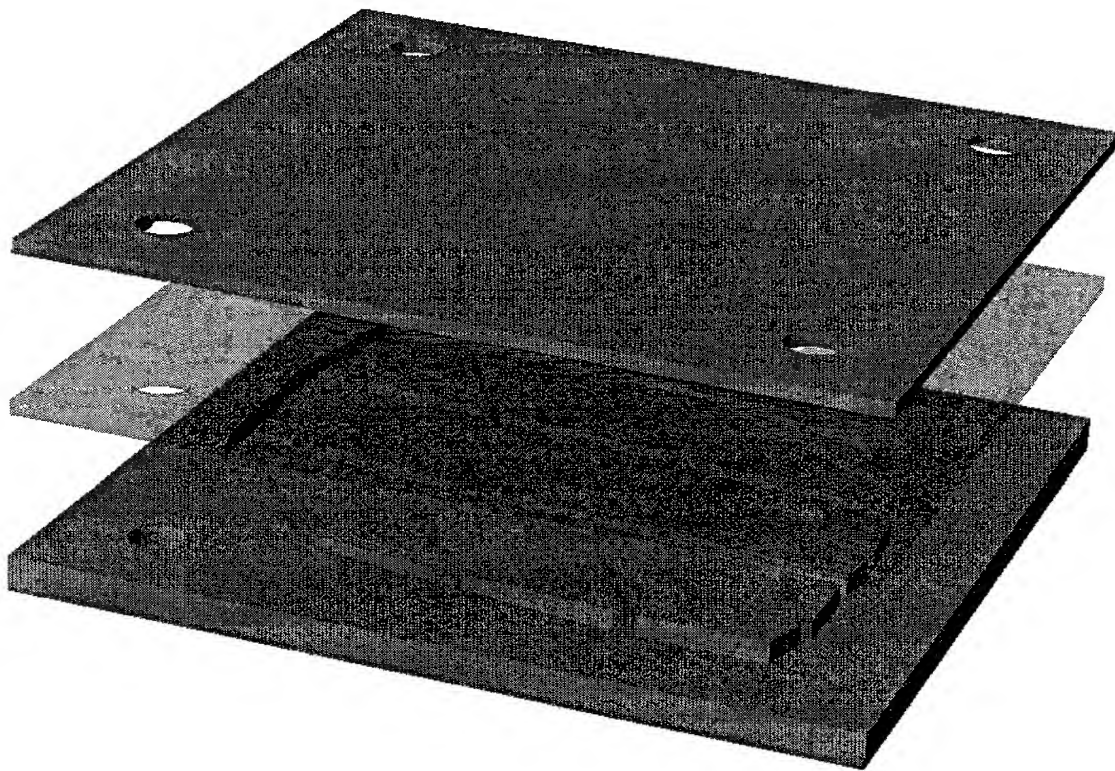


FIG. 21
STRIATED STACKED SCAFFOLD SYSTEM

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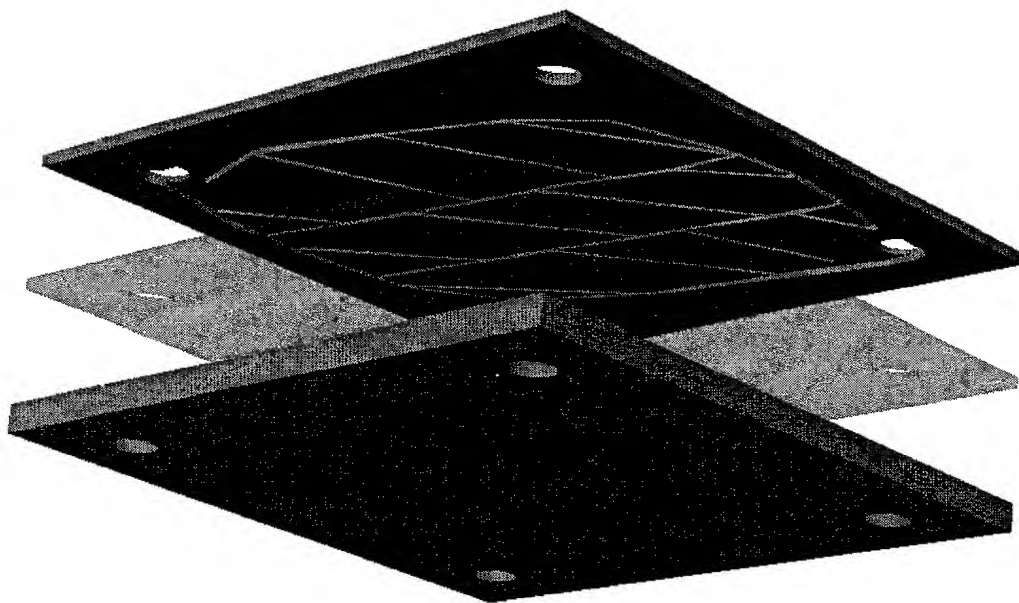


FIG. 22
STRIATED STACKED SCAFFOLD SYSTEM

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